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## Quickstart Profiling Instructions for SBE 19plus and 19plus V2 (see product manual for complete details)

This protocol is for internally recording CTD work (no on-deck computer or Deck unit).

- For real-time profiling, follow the same protocol, with the addition of steps described in *Quickstart Profiling Instructions for SBE 19plus/19plus V2 using Seasave for Real-Time Data Acquisition*.

### CONFIGURE AND DISPLAY SETUP IN SEATERM

1. Connect data I/O cable to computer, open Seaterm, and connect to CTD (click Connect button).
2. **After all previous data has been uploaded**, initialize logging (erases memory).
  - a. At S> prompt, type INITLOGGING and press the Enter key.
3. Set scans to average to 1.
  - a. At S> prompt, type NAVG=1 and press the Enter key.
4. Set pump delay between 30 and 40 sec.
  - a. At S> prompt, type PUMPDELAY=40 and press the Enter key.
5. In ocean salinities, set minimum conductivity frequency to frequency value at 0 (from cal sheet), plus 500 Hz (for example, if 2875 Hz is 0 reading, set to 2875 + 500 = 3375).  
In brackish or fresh salinities, either set to (zero frequency value + 10 Hz) or to 0 Hz.
  - a. At S> prompt, type MINCONDREQ=x (where x is value) and press the Enter key.
6. Send Status command to verify setup.
  - a. At S> prompt, type DS and press the Enter key.
7. Exit SEATERM and disconnect cables.

### DEPLOYMENT AND RECOVERY

8. Check that all connector dummy plugs are in place, and sensor storage containers are removed (for example, pH sensor soaker bottle).
9. Check that syringe from TC duct plumbing is removed.
10. Follow pre-deployment protocols for oil dispersion prior to putting CTD in surface oil-laden water.
11. In field log, write down turn-on time, date, station location, conditions.
12. Turn on CTD.
13. Put CTD in water so instrument is totally submerged and below surface and oil layer (if present).
  - a. Top of Y-valve purge plumbing tube must be submerged - bubbles should be coming out of purge valve tubing, indicating air is bleeding out of plumbing.
  - b. If not purging, recover CTD and clear purge valve with wire supplied with CTD.
  - c. Air purging takes about 30 seconds.
14. After CTD is in water for about 60 seconds or longer (pump delay plus 20-30 seconds), start to lower CTD at about 25 -50 cm/s.
  - a. Lowering speed determines resolution. At 4 Hz, 50 cm/s provides 4 data points every 0.5 m.
  - b. If you have lots of ship heave from waves, you can lower faster ~ 1 m/s.
15. Lower to desired depth / near bottom.
  - a. Try to NOT slam CTD into bottom mud or rocks.
  - b. After cast is complete, raise CTD at about same rate if possible.
16. Prior to CTD removal, disperse oils if they have accumulated on surface
17. Carefully recover CTD from water, turn CTD off, and secure to boat.
  - a. Write down turn-off time (mostly as a reminder to turn it off).

### POST-DEPLOYMENT

18. Follow rinsing/cleaning protocols for Oil Spill work.
19. CTD will store hundreds of casts. However, it is a good idea to look at casts periodically to be sure all systems are working; upload data after each cast, or upload every 10, 20, 30, etc. casts. For 19plus, use Seaterm to upload data. For 19plus V2, use SeatermV2 to upload data.
20. Prepare to deploy at next sampling time or station.